

CLAIMS

1. A DNA involved in the regeneration ability of plants, wherein the DNA is any one of (a) to (d):
 - 5 (a) a DNA encoding a protein comprising the amino acid sequence of SEQ ID NO: 3;
 - (b) a DNA comprising a coding region of the nucleotide sequence of SEQ ID NO: 1 or 2;
 - (c) a DNA encoding a protein comprising an amino acid sequence with one or more amino acid substitutions, deletions, additions, and/or insertions in the amino acid sequence of SEQ ID NO: 3; and
 - 10 (d) a DNA that hybridizes under stringent conditions with a DNA comprising the nucleotide sequence of SEQ ID NO: 1 or 2.
2. A DNA encoding a partial peptide of a protein comprising the amino acid sequence of SEQ ID NO: 3.
- 15 3. A DNA comprising a promoter region of the nucleotide sequence of SEQ ID: 1 or 2.
4. A vector comprising the DNA of claim 1 or 2.
- 20 5. A vector comprising the DNA of claim 3.
6. A host cell carrying the vector of claim 4.
- 25 7. A plant cell carrying the vector of claim 4.
8. A plant transformant comprising the plant cell of claim 7.
9. A plant transformant that is a progeny or a clone of the plant transformant of claim 8.
- 30 10. A propagation material of the plant transformant of claim 8 or 9.
11. A method for producing a plant transformant, wherein the method comprises the steps of introducing the DNA of claim 1 or 2 into a plant cell, and regenerating a plant from said plant cell.
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12. A protein encoded by the DNA of claim 1 or 2.
13. A method for producing the protein of claim 12, wherein the method comprises the steps of culturing the host cell of claim 6, and collecting a recombinant protein from said cell or the culture supernatant thereof.
14. An antibody that binds to the protein of claim 12.
15. A polynucleotide comprising at least 15 continuous nucleotides that are complementary to the nucleotide sequence of SEQ ID NO: 1 or 2, or a sequence complementary thereto.
16. A method for increasing the regeneration ability of a plant, wherein the method comprises the step of expressing the DNA of claim 1 or 2 in a cell of a plant.
17. An agent for altering the regeneration ability of a plant, wherein the agent comprises the DNA of claim 1 or 2, or the vector of claim 4 as an active ingredient.
18. A method for determining the regeneration ability of a plant cell, wherein the method comprises the step of detecting the expression of the DNA of claim 1 or the protein of claim 12 in the plant cell.
19. A method for determining the regeneration ability of a plant cell, wherein the method comprises the step of detecting the activity of the protein of claim 12 in the plant cell.
20. A method for improving the regeneration ability of a plant, wherein the method comprises the step of regulating the activity of the endogenous protein of claim 12 in the plant.
21. A method for selecting a transformed plant cell, wherein the method comprises the steps of:
- (a) introducing a plant cell with a vector comprising the DNA of claim 1 or 2 as a selection marker; and
 - (b) culturing the plant cell and selecting plant cells that have acquired regeneration ability.
22. A method for altering the regeneration ability of a plant, wherein the method comprises the step of substituting the endogenous DNA of claim 1 or 2 in a plant by crossing.